

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

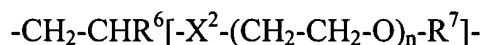
Listing of Claims:

1-41 (Canceled)

42. (New) A zwitterionic polymer comprising units having a betaine group, comprising:

- at least 35 mol% of units having a betaine group, the betaine group having a cationic group and an anionic group, and
- additional units selected from the group consisting of:

alkoxylated units of following formula:



in which:

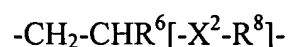
R^6 is a hydrogen atom or a methyl group,

X^2 is a group of formula $-\text{CO}-\text{O}-$, $-\text{CO}-\text{NH}-$ or $-\text{C}_6\text{H}_4-\text{CH}_2-$,

n is an integer or mean number of greater than or equal to 1,

R^7 is a hydrogen atom, an alkyl group or a tristyrylphenyl group, and/or

hydroxylated units of following formula:



in which:

R^6 is a hydrogen atom or a methyl group,

X^2 is a group of formula $-\text{CO}-\text{O}-$, $-\text{CO}-\text{NH}-$ or $-\text{C}_6\text{H}_4-\text{CH}_2-$,

R^8 is a hydrocarbon group of at least two carbon atoms having at least two $-\text{OH}$ groups, preferably on two consecutive carbon atoms.

43. (New) The polymer as claimed in claim 42, wherein the anionic group is a carbonate, sulfonate, phosphate, phosphonate, phosphinate or ethenolate group and wherein the cationic group is an ammonium, pyridinium, imidazolinium, phosphonium or sulfonium group.

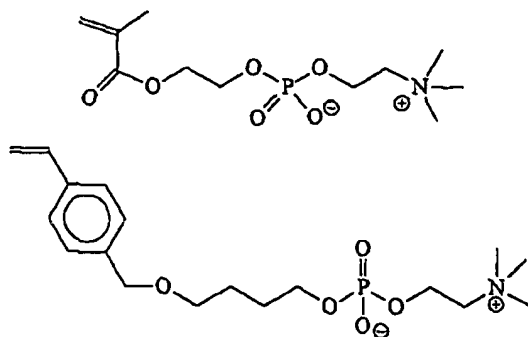
44. (New) The polymer as claimed in claim 42, wherein the betaine groups are pendent groups of the polymer.

45. (New) The polymer as claimed in claim 42, wherein the units having a betaine group and optionally the alkoxyated and/or hydroxylated units form a polyalkylene hydrocarbon chain optionally interrupted by one or more nitrogen or sulfur atoms.

46. (New) The polymer as claimed in claim 42, wherein the units having a betaine group derive from at least one betaine monomer selected from the group consisting of the following monomers:

alkyl sulfonates of dialkylammonium alkyl acrylates, alkyl sulfonates of dialkylammonium alkyl methacrylates, alkyl phosphonates of dialkylammonium alkyl acrylates, alkyl phosphonates of dialkylammonium alkyl methacrylates, alkyl

sulfonates of dialkylammonium alkyl acrylamido, alkyl sulfonates of dialkyl-
ammonium alkyl methacrylamido, alkyl phosphonates of dialkylammonium alkyl
acrylamido, alkyl phosphonates of dialkylammonium alkyl methacrylamido,
heterocyclic betaine monomers,
alkyl sulfonates of dialkylammonium alkyl allylics, alkyl phosphonates of dialkyl-
ammonium alkyl allylics, alkyl sulfonates of dialkylammonium alkyl styrenes, alkyl s
phosphonates of dialkylammonium alkyl styrenes, betaines resulting from
ethylenically unsaturated anhydrides and dienes, sulfobetaines derived from
piperazine, sulfobetaines derived from 2-vinylpyridine, sulfobetaines derived from 4-
vinylpyridine, phosphobetaines of formulae



and betaines resulting from cyclic acetals.

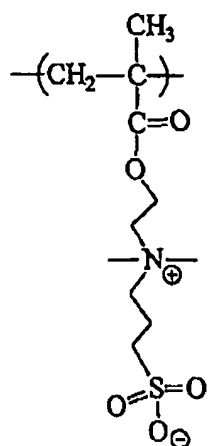
47. (New) The polymer as claimed in claim 46, wherein the units having a betaine group derive from at least one betaine monomer selected from the group consisting of the following monomers:

sulfopropyltrimethylammonioethyl methacrylate,

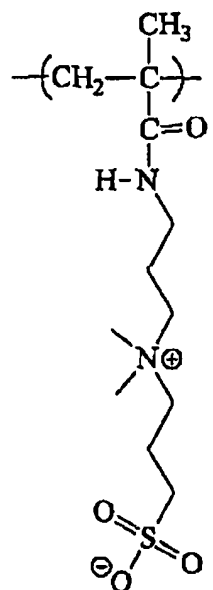
sulfoethyltrimethylammonioethyl methacrylate,

sulfobutyltrimethylammonioethyl methacrylate,
sulfohydroxypropyltrimethylammonioethyl methacrylate,
sulfopropyltrimethylammoniopropylacrylamide,
sulfopropyltrimethylammoniopropylmethacrylamide,
sulfopropyltriethylammonioethyl methacrylate,
sulfohydroxypropyltrimethylammoniopropylmethacrylamide,
sulfohydroxypropyltriethylammonioethyl methacrylate,
2-vinyl-1-(3-sulfopropyl)pyridinium betaine,
4-vinyl-1-(3-sulfopropyl)pyridinium betaine,
1-vinyl-3-(3-sulfopropyl)imidazolium betaine,
sulfopropylmethyldiallylammonium betaine, and
((dicyanoethanolate)ethoxy)dimethylammoniumpropylmethacrylamide.

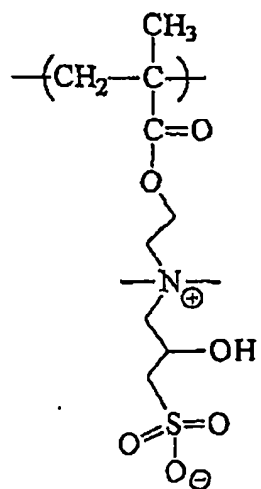
48. (New) The polymer as claimed in claim 42, wherein the units having a betaine group exhibit one of the following formulae:



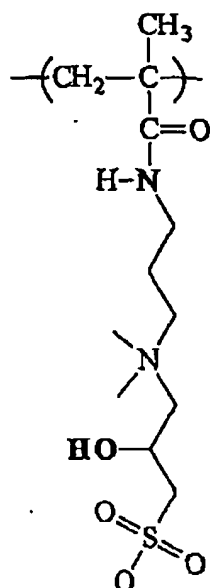
-(SPE)-



-(SPP)-

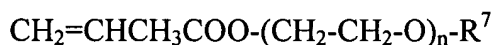


-(SHPE)-



-(SHPP)-

49. (New) The polymer as claimed in claim 42, wherein the alkoxyated units are units deriving from a monomer of following formula:



in which:

n is an integer or mean number of greater than or equal to 1,

R⁷ is an alkyl group having 1 to 30 carbon atoms or a tristyrylphenyl group.

50. (New) The polymer as claimed in claim 49, wherein:

n is greater than or equal to 10, preferably greater than or equal to 15, and

R⁷ is a methyl group.

51. (New) The polymer as claimed in claim 49, wherein:

n is greater than or equal to 10, and

R⁷ is an alkyl group having from 12 to 30 carbon atoms, optionally from 18 to

25.

52. (New) The polymer as claimed in claim 49, wherein:

n is greater than or equal to 10, and

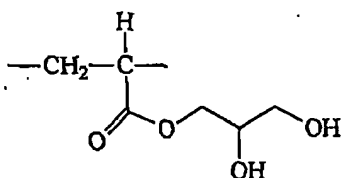
R⁷ is a tristyrylphenyl group.

53. (New) The polymer as claimed in claim 42, wherein:

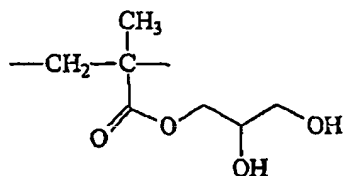
n is greater than or equal to 10, and

R⁷ is a hydrogen atom.

54. (New) The polymer as claimed in claim 42, wherein the hydroxylated units are chosen from the units of following formulae:



-(GMAc)-



-(GMMA)-

55. (New) The polymer as claimed in claim 42, not comprising other units, the polymer optionally exhibiting solely the units having a betaine group and the alkoxyated units or solely the units having a betaine group and the hydroxylated units.

56. (New) The polymer as claimed in claim 42, having a weight-average molecular mass of between 5000 g/mol and 400 000 g/mol, in relative value, measured by GPC calibrated with poly(ethylene oxide) standards.

57. (New) The polymer as claimed in claim 42, comprising:

from 65 to 99 mol% of units having a betaine group, and

from 55 to 1 mol% of alkoxylated units,

optionally:

from 70 to 90 mol%, of units having a betaine group, and

from 10 to 30 mol%, of alkoxylated units.

58. (New) The polymer as claimed in claim 42, comprising:

from 80 to 100 (excluded) mol% of units having a betaine group, and

from 20 to 0 (excluded) mol% of hydroxylated units.

59. (New) A drilling fluid comprising the polymer as claimed in claim 42.

60. (New) The drilling fluid as claimed in claim 59, wherein the polymer content is between 0.1% and 10%, optionally between 1% and 3%.

61. (New) A clay-swelling inhibitor and/or as accretion-inhibiting agent and/or as fluid-rheology-controlling agent and/or as filtrate-reducing agent and/or as lubricating agent for a drilling fluid, comprising a polymer as defined in claim 42.